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ABSTRACT

Ways in which five teacher education program development teams used codified knowledge in educational literature were examined. Questions guiding the research included: (1) To what extent was educational literature considered during the deliberations of the program development teams? (2) What was the relationship between discussions of educational literature and discussions of the content or organization of the proposed teacher education programs? and (3) To what extent did educational literature seem useful in responding to the expressed needs of the development team members? The documents examined contained meeting minutes of five development teams during a 1-year period. Findings included: (1) Empirical research results were mentioned in less than 1 percent of the recorded discussions in any group; (2) Philosophical statements were virtually unmentioned in the minutes of two groups but were extensively discussed over a 2-month period in the deliberations of a team focusing on academic learning; (3) Team members rarely asked questions that could be answered by appeal to research or philosophical literature (most questions concerned needs for specific information, such as certification requirements or student enrollment figures); and (4) Discussion of codified knowledge was rarely associated with discussions of the content or organization of instruction. When such associations did occur, they usually concerned knowledge in the information category. (Author/JD)

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THE USE OF CODIFIED KNOWLEDGE IN FIVE TEACHER EDUCATION PROGRAMS A COMPARATIVE ANALYSIS

Charles W. Anderson

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Abstract

This paper examines how five teacher education program development teams utilized the codified knowledge in educational literature. These questions guided the research: (1) To what extent was educational literature considered during the deliberations of the program development teams? (2) What was the relationship between discussions of educational literature and discussions of the content or organization of the proposed teacher education programs? (3) To what extent did educational literature seem useful in responding to the expressed needs of the development team members? The documents examined consist of meeting minutes of five development teams during the period of one year. Findings can be summarized as follows: (1) Empirical research results were mentioned in less than 1% of the recorded discussions in any group; (2) philosophical statements were virtually unmentioned in the minutes of two groups but were extensively discussed over a two-month period in the deliberations of a team focusing on academic learning; (3) team members rarely asked questions that can be answered by appeal to research or philosophical literature (most questions concerned needs for specific information, such as certification requirements or student enrollment figures); and (4) discussions of codified knowledge were rarely associated directly with discussions of the content or organization of instruction. To the extent that such associations did occur, most concerned knowledge in the information category.

THE USE OF CODIFIED KNOWLEDGE IN FIVE TEACHER EDUCATION PROGRAMS: A COMPARATIVE ANALYSIS[1]

Charles W. Anderson[2]

As anyone who has ever attended a convention of the American Educational Research Association will realize, the generation and codification of knowledge about education is a major enterprise. Furthermore, understanding of and access to this knowledge base is widely considered to be a mark of professionalism in education. Virtually every professor of education has shelves and file cabinets full of journals, books, and papers reporting on educational research or discussing issues in education.

The appearance of erudition may be impressive, but how is all of this information *really* used? The development of multiple teacher education programs at Michigan State University, and the accompanying documentation of the development process, provided an opportunity to investigate one common claim regarding the usefulness of educational literature: that this documented knowledge should be useful for improving practice in fields such as teacher education.

In fact, the multiple programs in teacher education[3] were

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[1]Paper was presented at the annual meeting of the American Educational Research Association, New York City, March 1982.

[2]Charles Anderson is an assistant professor in the Department of Teacher Education and co-coordinator of the Elementary Science Project. He was also the documenter (and core group member) with the Academic Learning team. The author would like to acknowledge the assistance of Ted Ward, whose advice and criticism helped to define the research questions and procedures, and Margret Buchmann, who made helpful comments on earlier drafts of this paper.

[3]Academic Learning, Classroom Management, Heterogeneous Classrooms, Learning Community, and Multiple Perspectives.

created partly for the purpose of making better use of the codified knowledge in the educational literature. The following is a summary (from program minutes) of a statement by the Dean of the College of Education at a meeting of one program development team.

> She asserted that there is a growing knowledge base in teacher education and noted the challenge of relating that knowledge to the enduring problems of practice. She talked about the failure of research on teaching and learning to be unified as a body of work or to have direct implications for practice. She cited the special responsibility and expertise of teacher educators to interpret research and to apply it to practice.
>
> Mentioning important relations between research and teacher education at MSU...(she) presented a model for working back and forth from research to practice via teacher preparation programs as a powerful form of dissemination. (LC 032480)[4]

The attitude of the college leadership, as revealed in the above statement, is one of several factors that make the development of the multiple programs at MSU an ideal locus for study of the relationship between educational literature and the development of teacher education programs. Two other factors are worthy of mention. First, program development in teacher education at Michigan State University was undertaken by five separate teams. Thus general issues as well as those that are idiosyncractic to a particular development team can be identified. Second, each of the development teams included one or more active educational researchers associated with the Institute for Research on Teaching. Thus access to educational research findings was likely to be easier for those

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[4]Quotations from minutes are identified by the initials of the program and the date of the meeting (AL=Academic Learning, CM=Classroom Management, HC=Heterogeneous Classroom, LC=Learning Community, MP=Multiple Perspectives).

teams than for many other teacher educators. This paper examines the research question: How did each of the five development teams make use of the codified "knowledge base" during the initial stages of development?

As it is formulated, however, the question is too ambiguous to answer. What is included in the "codified knowledge base?" How might a program development team make use of that knowledge? The research question must be reformulated in a way that renders it both less ambiguous and more answerable from the available documentation. The methods section, below, describes how this reformulation was accomplished.

Methods

Nature of the Documents Reviewed

The 1979-80 academic year was a crucial year in the development of the multiple teacher education programs at Michigan State. During that year discussions of teacher education were translated into actual program development efforts. Five program development teams were organized during the fall of 1979. Each team included a group of teacher educators who shared a common orientation toward teacher education. Those orientations are reflected in the program names: Academic Learning, Classroom Management, Heterogeneous Classrooms, Learning Community, and Multiple Perspectives.

The organization of the program development teams differed considerably from one team to another. The teams were alike, however, in that each team included a central planning committee, known as the "core group," that met regularly during the winter

and spring of 1980. The core group meetings generally included discussions of most important planning activities.

The teams were also alike in that each team included a documentor, a researcher from the Institute for Research on Teaching whose duties included "documenting" the program development effort. Wanous (Note 1) provides a more complete discussion of documentors' duties. Although the documentation produced was voluminous (including minutes, correspondence, concept papers and position papers, information requested by planning team members, etc.), documentation methods and procedures were not consistent across programs. All of the documentors were consistent, however, in keeping minutes of core group meetings. The importance of the core group meetings and the relative consistency of record keeping across programs led to the selection of the five sets of core group minutes for analysis. For all five core groups, the analysis included the minutes of 47 meetings that took place between December, 1979, and June, 1981.

Identifying Discussions of Codified Knowledge

The selection of the five sets of core group minutes as the basis for analysis has the effect of narrowing the scope of the broad research question stated in the introduction. The question might now be restated, "How was codified knowledge used in core group meetings during the 1979-80 academic year?" The precision of the question remains inadequate, however, in part because there is no specification of how occasions when core group members were "using codified knowledge" might be identified.

For the purpose of this paper, codified knowledge was defined very broadly, so as to include virtually anything available in written form except documents produced solely for the program development teams (such as minutes or position papers). More precisely, the core groups were considered to be using codified knowledge whenever the minutes contained references to research on education (R), to position papers or philosophical literature pertaining to education (P), or to other verifiable sources of information such as program descriptions, certification requirements, or enrollment records (I). Examples of statements in each category are presented below.

Research-based statements. This category includes statements supported by appeals to empirical research (either specific studies or generic "research"). The category also includes discussions of research results or research studies. Examples of research-based statements follow.

--Concerning the evaluation that is currently being done, ideas which might be appropriate to present to the reseasch committee were generated:

1-2. (Did not involve research)

3. The follow-up studies of student teachers done by Freeman, et. al., might be brought to the attention of the research council.

4. The impact study of student teaching might also be shared. (MP 021280)

--Easley's work on the use of subject matter (to) inculcate social values is interesting in this regard. (AL 052780)

--The research has not shown much difference in the frequency of behavioral problems over the years. (AL 061080)

--Three reviews of recent research on teaching and classroom management were given to faculty: "Teacher effectiveness in the elementary school"(Tom Good), "Advances in teacher

effectiveness research" (Jere Brophy), and Classroom management" (Linda Anderson). (CM 013180)

Philosophy-based statements (P). This category includes statements based on position papers or philosophical literature, inside the field of education or out, which: (1) are not primarily syntheses or summaries of empirical research results, and (2) are not written about or in support of a specific teacher education program. Examples of philosophy statements follow.

-- ....shared some of his frustrations in coming to terms with what, in fact, students will find relevant. He gave the example of having assigned the book Small is Beautiful and discovering that students did not even see this kind of work as relevant to their work in schools. (MP 030580)

--Soltis picks up one of the central features of the science curriculum reform movement: the shift from a knowledge accumulation to a conceptual change model of learning. (AL 022680)

--There was a general agreement among members of the core group that Lewis' systems of postulates and corrollaries do not provide an adequate accounting of the nature and methods of disciplines. There was extensive discussion, however, of the usefulness of Lewis' methods as a pedagogical device.

The summary below is arranged thematically. The themes below, and several others, were interwoven in the actual discussion. This quote was followed by one page of discussion. (AL 021280)

Informational statements (I). This category includes statements of fact verifiable by reference to sources of information such as program descriptions, certification requirements, or enrollment records. Examples of informational statements include the following:

--The university now graduates about 360 students each year who have teaching specialities and majors or minors in math, science, English, or social studies. Those students are approximately evenly split between elementary and secondary teachers. There is considerable variety in the points in their undergraduate careers at which students choose teaching majors and the time of year when they graduate. (AL 121279)

--Israeli students conduct sustained projects in the eleventh and twelfth grades, and they are required to keep journals

describing the development of their ideas as well as their final form. (AL 032580)

--Topics of discussion included the following:

1-6. (Statements on other topics)

7. The college requirements for graduates of the program were discussed as listed in the handout.

8. The legal requirements for certification were discussed. (Thirteen lines of description of legal requirements followed.) (CM 011580)

--The history of the student teaching program was presented. (Sixty lines of discussion of student teaching followed.) (MP 022780)

--K. reviewed aspects of ED 327 and ED 450. (Ninety-two lines of discussion followed.) (MP 030580)

The identification of discussions in which core group members were using codified knowledge was the first step in the construction of a simple coding scheme. The minutes could be read and all discussions involving research, philosophy, or information could be identified. This procedure makes possible some assessment of *how often* codified knowledge is discussed by the core groups. The procedure does not, however, reveal *how* those discussions might have contributed to the program development efforts. For this reason it was necessary to extend the coding scheme to other parts of the minutes.

Completing the Coding Scheme

Discussions of codified knowledge could conceivably have any number of functions in a program development effort. The analysis described in this paper made it possible to test two hypotheses. First, it is worth knowing how discussions of codified knowledge might contribute to the design or contents of the programs themselves.

Therefore discussions of the content or organization of the proposed programs were identified whenever they occurred.

The second tested hypothesis was that codified knowledge was used in response to the expressed needs of core group members. Were there times, for instance, when core group members expected research results to be helpful and sought out the needed research? To test this hypothesis, occasions were identified when core group members asked questions (Q) or otherwise expressed needs that could conceivably be satisfied by appeal to the educational literature. The following paragraphs contain more precise definitions of these categories and examples from the minutes of statements included in each category.

Content of instruction (C). This category includes all statements, suggestions, of discussion concerning the content of instruction that students would receive in the program under design. Statements about the proposed *organization* or instruction are not included. Also not included are general statements about "what teachers need to know." Examples of content statements include the following:

> --Some topics, such as classroom management, may best be taught with a great deal of redundancy across courses. (CM 011580)
>
> --As presently planned, the first session with the pre-interns will introduce the concepts of creating, maintaining and restoring as components of management. There will be an emphasis placed on preventive management and the need to teach the students the routine procedures. (CM 013180)
>
> --The group also shared perceptions concerning the issue of our students taking courses which may be offered through the educational psychology department where an emphasis could be placed on the application of principles of psychology to classroom practice. (MP 013080)
>
> --Our program ought to stress the ability to *speak* about one's

discipline as well as write since this is essential for teachers. (AL 022580)

--Talking about discipline problems in a methods class, for instance, is very difficult (since) the context is removed from the actual classroom. (AL 041580)

Organization of instruction (O). This category includes statements about admissions standards, course sequences, schedules, instructors, and other aspects of the proposed instructional program having to do with how the program will be organized rather than what will be taught. The distinction between content and organization statements is not clear in all cases, since decisions about organization often have clear implications for content, and vice versa. Examples of organizational statements include the following:

--Members of the Advisory Group could discuss with the students the rewards and problems of the teaching profession. I have used teachers as guest lecturers in my class, and the experience has been very successful. The problem is that teachers are not often available at times when college classes meet. Furthermore, there is no system for compensating teachers for the time that they take to come to a university class. (AL 041580)

--The group also shared perceptions concerning the 180 credits which we have available to work with in designing a teacher education undergraduate program. (MP 013080)

--Discussion followed concerning whether we might consider having an entry-level course to determine whether potential students meet necessary criteria for entering the teacher profession. (MP 011680)

--However, this raises several questions about how frequently students should be shifted to broaden their perspectives, and how to continue building their confidence and abilities to cope with one situation. (CM 041580)

--The sequencing of the content must reflect students' needs at varying points in their programs. For example, what a pre-intern needs to hear about management would be different than an intern's needs. (CM 041580)

Questions or needs statements (Q). This category includes all questions or expressions of needs that could conceivably be answered by appeal to some source of codified knowledge (i.e., categories R, P, and I explained previously). Examples of such questions or statements include the following:

--Earlier, it had been suggested that one way to use research might be in preparing students for observations. (CM 011580)

--The question was raised whether there is a different set of management skills important for student teachers in another teacher's classroom as opposed to skills needed in running one's own classroom. (CM 013180)

--Are undergraduate students mature enough to achieve a deep understanding of their disciplines? (AL 012980)

--Suggestions for relevant areas included surveys and research that has bearing on the skills that teachers need for effective performance. (AL 021280)

--It appears that one may need to know more about students' varying levels of development so that we can better design curricula which provide an optimal match between where they are developmentally and how we present knowledge in a way which is understandable and meaningful to them. (MP 030580)

The final category in the coding scheme included all statements in the minutes that did not fit into any of the other six categories. This category was designated "other." The types of statements in this category include:

--statements of fact or opinion not supported by appeal to codified knowledge or obviously verifiable; ("There is a need to make the content clearly relevant to students when they take the class. Otherwise, they have little invested." CM 041580)

--discussions of non-instructional products of the core groups, such as concept papers or statements of philosophy;

--discussions of meeting schedules, organization, and task assignments; and

--discussions of "what teachers need to know" that were not accompanied by references to instructional content or organization.

Thus, a simple coding scheme was used to classify the entire contents of the five sets of core group minutes into seven categories:

1. statements about the content of the proposed programs (C),
2. statements about the organization of the proposed programs (O),
3. questions or statements of need for information (Q),
4. statements with references to educational research (R),
5. statements with references to position papers or philosophical works (P),
6. statements with references to other codified information (I),
7. all other statements (Other).

Specific Research Questions and Analysis Procedures

The coding scheme described above made it possible to reduce the single broad research question (How was codified knowledge used in core group meetings during the 1979-80 academic year?) to three more specific questions. Those questions and the analyses performed to address each question are described below.

1. To what extent was the codified knowledge considered during the deliberations of the program development teams? This question was addressed by considering the frequency with which discussions of the educational literature were recorded in each set of minutes. These frequencies were calculated by means of a line-counting procedure. For each meeting, the number of lines devoted to the three educational literature categories (R, P, and I) was calculated as a percentage of the total number of lines in the minutes for that meeting.

This procedure produces a very rough indication of the frequency with which issues related to each category were addressed.

The minutes were selective records of the core group discussions, and the number of lines devoted to a topic is not necessarily indicative of its importance. Nevertheless, this procedure gives "order of magnitude" estimates of the amount of attention given by each core group to educational literature in each of the three categories.

2. What was the relationship between discussions of codified knowledge and discussions of content or organization of the proposed teacher education programs? This question concerns the relationship between the three educational literature categories (R, P, and I) and discussions of the content (C) or the organization (O) of the programs under development. Relationships of this type might appear in two ways in the minutes. First, references to educational literature could be imbedded in, or juxtaposed with, discussions of the content or organization of instruction. An exhaustive search for relationships of this type was conducted. Second, ideas developed from educational literature could be identified during discussions of the content or organization of instruction without explicit reference to a source. No systematic effort was made to discover the sources of ideas that were not explicitly credited.

3. To what extent was codified knowledge useful in responding to the expressed needs of the development team members? This question concerned the relationship between questions or statements of need for information (Q) and statements in the three educational literature categories (R, P, and I). The number of questions and need statements was too large to make it practical to follow up on the response to every one. Therefore, nine questions were selected for examination. These were the first two questions or

needs statements identified in the minutes of each of the programs. (There was only one such statement for one program.) The reason for selecting the first two needs statements from each program was that most of the time would be available for a response to those questions or statements. For each need statement the remainder of the minutes were examined to determine how, if at all, a response was made to the question.

Results

Results of analyses addressing each of the three specific research questions are presented below.

1. To what extent was the available literature considered during the deliberations of the program development teams? The results of the frequency counts used to address question one are summarized in Table 1. Appendix A contains more detailed tables presenting the frequency count for each program on a month-by-month basis. It is apparent from Table 1 that information derived from empirically-based research was virtually ignored by all five of the program development groups. Discussions of research occupied one percent or less of the minutes for each of the five development groups.

Table 1

Comparison of Minutes of Five Teacher Education Programs

Program / Category	Academic Learning (AL)	Classroom Management (CM)	Heterogeneous Classrooms (HC)	Learning Community (LC)	Multiple Perspectives (MP)	Overall Average
Number of Meetings	11	7	11	6	12	9
Total pages in minutes	58	11	25	12	37	29
Approx. total lines in minutes	1660	325	800	400	1300	900
% C (Content of instruction)	13	10	7	5	13	10
% O (Organization of instruction)	3	18	5	0	8	7
% Q (Questions or needs statement)	4	7	5	0.3	1	3
% R (Empirically based research)	1	1	0.3	0	0.5	0.5
% P (Philosophical statements)	11	0	0	2	0.2	3
% I (General information)	5	2	10	5	24	9
% Other	63	61	73	88	54	68

Philosophical papers and position statements received considerable attention from one of the development groups (Academic Learning). Another group (Learning Community) used the paper, "Education and the State: Learning Community" by Joseph Schwab (1975), as a basic document in the development process. The evidence from the minutes indicates that the other three groups virtually ignored the literature in educational philosophy and other literature not based on empirical research.

For four of the five groups the most commonly discussed form of codified knowledge was neither research nor philosophical in nature. Rather, it took the form of general information. This information was typically of only local interest, and was often codified in the form of photocopied papers, lists, brochures, catalogs, and so on. It was, however, of obvious and immediate importance to the program development teams. Examples of such information include: state certification requirements, college enrollment figures, future plans for development in the college, and information about college and university course structure and graduation requirements.

2. What was the relationship between discussions of educational literature and discussions of the content or organization of the proposed teacher education programs? In general, this question can be answered with a negative finding. Discussions of the educational literature, particularly the research and philosophical literature, tended to occur early in the development process and to focus on intermediate goals (such as consensus building or development of a position paper) rather than on the content and organization of instruction. The only exceptions to this generalization occurred in the meetings of the Academic Learning Group. Three early meetings were devoted to the discussion of philosophical papers by Cleo Cherryholmes, Don Lewis, and Jonas Soltis

(AL 012980, AL 021280, AL 032580). During each of these meetings some members of the core group made statements about the implications of the discussions for the content of the teacher education program. At a later date members of the core group presented plans for individual courses (Al 051580). At several points either the course plans or discussions of the course plans were linked to research or philosophical literature.

Discussions of codified knowledge in the information category (I) were not only more common than discussions of information in the other two categories, they also were more commonly linked to discussions of the content or organization of instruction. Examples of such linkages include the following:

1. Existing course numbers and course requirements were examined, and an attempt was made to "fit" desired program courses into this structure. (HC 050280)

2. Information about the skill levels of incoming students was used to question the reasonableness of proposed course requirements. (AL 051580)

3. Suggestions for improvements in course content and organization were generated on the basis of a review of the present program. (MP 040280)

3. To what extent was educational literature useful in responding to the expressed needs of the development team members?

This question was addressed by looking at the points where members of the core group asked questions or stated their desire for information or guidance. The only questions considered were those for which an appeal to some outside source of information or guidance might conceivably be useful.

The total number of questions and needs statements was large enough so that it was not practical to try to determine the response to every single one. Therefore, a sample of questions was chosen

for investigation. This sample consisted of the first two questions or needs statements that appear in the minutes of each of the groups (with the exception of the Learning Community Group, where only one such question was found). The nine questions selected in this manner are listed below.

1. In addition to providing diverse practical experiences, we need to question basic assumptions about the nature and sequence of practical experiences for students. It may be better, for instance, to expose students to tutoring experiences only after they have worked with class-size groups. Research findings should be useful in these deliberations. (AL 121279)

2. Our decisions about program direction should be based on accurate information about what is happening now. The core group's members will be able to provide essential information about teacher education programs existing in their departments. (AL 121279)

3. The following list was developed to focus discussions in later meetings: (a) a description of the Elementary Internship Program, (b) potential research questions and areas for investigation, (c) areas that might be considered for revision or addition to the program, (d) certification requirements, and (e) what is presently being done in courses like ED 200 and ED 450. (CM 120579)

4. Interviews for new admissions to the Elementary Intern Program will be conducted in February. There is little research on teacher selection, and the existing research on teacher effectiveness does not transfer to the selection of sophomore students. Some potential information sources might be work by people in Nebraska who market their interviewing techniques, and a recent review by Shalock on research on teacher selection. (CM 011580)

5. This observation led to the framing of the following question: Is there ever an appropriate time for all students to have the same seat work? (HC 021580)

6. The next task for the core group will be to consider under what conditions, if any, is complete individualization desirable? (HC 020580)

7. Which kind of group notion is most conducive to the business of curriculum learning? (LC 021580)

8. The group then considered possible ways to approach the task. A variety of approaches was mentioned including the following:...reviewing program evaluations which have been done earlier and examining the practices of the present program and the theoretical rationale guiding the practice. (MP 011680)

9. The necessity of group members' sharing what we know about research was also stressed. Two areas we identified where we may begin to ask some research questions are
   --selection criteria and success in teaching, and
   --criteria for effectiveness in the classroom. (MP 013080)

The minutes of subsequent meetings include nothing that could be construed as a use of codified knowledge to respond to six of the above questions (1,4,5,6,7. and 9). These questions have in common that they record instances where core group members were looking for guidance in program design. Such guidance would presumably take the form of prescriptive generalizations. Empirical research in education rarely provides generalizations of this type. The core group members showed little interest in philosophical statement or position papers in which these questions were addressed in a nonempirical manner. Likewise, few attempts were made to investigate the ways that teacher education programs in other institutions may have responded to the problems under consideration.

Three of the questions (numbers 2,3, and 8) differed in that they called for specific information about existing programs at Michigan State University rather than prescriptive generalizations. These need statements were answered (at least partially) during subsequent meetings of the core group. In one case (number 2) the information provided to address this need came from both personal knowledge of members of the core group and documented information in locations such as college catalogs. In the second case (number 3) the questions were answered almost entirely on the basis of the

personal knowledge and experience of core group members. The team, Multiple Perspectives (number 8), conducted a very extensive review based on both personal knowledge and written information.

Summary of Results

The results presented above seem to indicate that the influence of codified knowledge on the core group discussions, as documented in the minutes, was at best subtle and indirect. Educational research and philosophical literature, in particular, were rarely considered by the program development teams. Specific information about the context in which program development was taking place played a minor but significant role. Several possible explanations for this pattern of results are presented in the discussion section.

Discussion

In this section six hypotheses that might account for the observed pattern of results are presented and the credibility and possible implications of each hypothesis are discussed.

Hypothesis 1: The documentation examined was inadequate.

The core group minutes were selective, recording only part of what happened in those meetings. Thus it is possible that the reporting was biased in a way that reduced the apparent role of the codified knowledge.

However, the major results presented above were consistent across five programs with five different documentors. An explanation drawing on bias would therefore necessarily postulate similar patterns of omission in all five sets of documents. In addition, the pattern of results coincides with the impressions of the

documentors and other core group members. Therefore, the most reasonable conclusion is that the minutes accurately represent the limited role of codified knowledge in the meetings.

Hypothesis 2: The data analysis techniques failed to detect actual modes of influence.

It might be that the deliberations were in fact strongly influenced by codified knowledge but in ways that were not detected by the data analysis techniques used for this paper.

There are reasons for giving serious consideration to this possibility. For instance, most of the minutes examined consisted primarily of statements classified as "other." Some of these statements were statements of fact or opinion given without reference to supporting evidence of any kind. To what extent were these statements influenced, either directly or indirectly, by the codified knowledge base? Susan Melnick addresses this question for one of the development teams in another paper in this set (Note 2). In general, though, the "other" statements seem to draw more heavily on personal experience or opinion than on codified knowledge.

Hypothesis 3: Participants were not aware of relevant literature.

Could it be that the participants in the meetings failed to make more references to the educational literature simply because they were not familiar with the literature? There is a trivial sense in which this is true: The volume of literature is obviously too great for anyone, or any group of people, to know in its entirety.

However, most members of the core group held doctorates in education, and many core group members were actively engaged in research projects during the 1979-80 academic year. Michigan State University is also a major research institution with a large

library and the Institute for Research on Teaching, and many core group members had large personal collections of educational literature.

Thus core group members clearly were aware of, and had access to, a large body of codified knowledge. Why is there so little evidence that they made use of that knowledge? Hypotheses 4,5, and 6 present alternative (though not necessarily mutually exclusive) answers to that question.

Hypothesis 4: The educational literature was most useful for other aspects of the development process.

Although core group meetings played an important role in the program development process, they were only a part of the process. Actions of administrators, meetings of other groups, conversations among individuals, course outlines, and position papers also played important roles. Records of these activities were not examined during the preparation of this paper.

Furthermore, the meetings took place at a very early stage in the development process. Three of the programs began accepting students and teaching their first courses in January, 1982, 18 months after the last of the core group meetings analyzed for this paper. The fourth program (Learning Community) is scheduled to begin in January, 1983. The fifth program development team (Classroom Management) was disbanded in June, 1981.

The activities of the program development teams during this period centered around building consensus and organizing the teams. It is certainly possible that the codified knowledge base might be far more useful at other stages in the development process (for instance, in developing the content of specific courses). The minutes of one meeting in which contents of specific courses were

discussed (AL 051580) lend some support to this hypothesis. Proposals for courses drew fairly heavily on the research experience of the participants and other parts of the educational literature, even Though discussions by the same group of general organization did not generally draw on codified knowledge. This hypothesis could be tested by analyzing other parts of the documentary records, although most other records are not as complete or as consistent across programs as the minutes examined.

Hypothesis 5: Group processes tended to discourage the use of codified knowledge.

The core group consisted of rather diverse mixture of professionals. Most core groups included (1) young professors who were actively engaged in research, but who generally had little experience in teacher education, (2) older professors of education with more experience, but generally less active involvement in research, and (3) other professionals, such as practicing teachers or professors from fields other than education. Many of the group members were working together for the first time. Under these circumstances the groups devoted considerable time and energy to developing a shared perspective on teacher education.

Ideally, such a shared perspective might be based on the pooled knowledge of all group members. Instead, consensus-building sometimes seemed to depend on finding those few abstractions that everyone in the group could agree on, regardless of background. To the extent that this process occurred, it inhibited the discussion of knowledge shared by only a few group members.

Westbury and Korbelik (Note 3) documented the development of a social work program in which the need for consensus among team

members tended to lead them to avoid certain issues that were controversial within the team. Unfortunately, these issues were crucial to the improvement of instruction. Both this study and the one by Westbury and Korbelik raise questions about the value of diversity within working groups. Does diversity lead to discussion at the level of the "lowest common denominator?" How can groups be structured so that consensus-building does not occur at the expense of legitimate expertise?

Hypothesis 6: The codified knowledge base is not really useful for the development of teacher education programs.

As stated earlier in this paper, when core group members expressed a need for knowledge or information, they generally were looking for either specific information or prescriptive generalizations. The specific information usually was supplied; the prescriptive generalizations usually were not. One explanation for this pattern is that the prescriptive generalizations simply did not exist. Research rarely supplies generally applicable prescriptions for practice, and the pace of development was rarely so slow that it was practical to consider the restricted, context-specific results that were available. Thus it is possible that there simply was no knowledge base that supplied what the core groups needed.

At the least, the analyses reported in this paper seem to show that the codified knowledge base is not easy to use during the development of teacher education programs, even if the development effort is being carried out by people who have access to that codified knowledge and have stated their intention to use it.

This paper raises as many questions as it answers about how the program development teams used--or failed to use--the codified knowledge available to them. Many of these questions are empirically answerable, either through further analysis of existing documents or through different methods of documentation. In any case, it is important that the study and discussion of knowledge utilization focus on the actions of practitioners, whose difficulties in using knowledge may not be anticipated by those who develop and codify knowledge.

Reference Notes

1. Wanous, D.S. Documentation: The application of a methodology to teacher education. Paper presented at the annual meeting of the American Educational Research Association, New York, 1982.

2. Melnick, S.L. Knowledge utilization and reform in teacher education: Perspectives on diversity. Paper presented at the annual meeting of the American Educational Research Association, New York, April, 1982.

3. Westbury, I. & Korbelik, J. Evaluation of a goal-focused educational program in social work. University of Chicago, undated.

References

Schwab, J.J. Education and the State: Learning Community. The Center Magazine, 1975, 8(3), 30-44.

APPENDIX A

Monthly records of the contents of core group minutes for each of the five programs.

Classroom Management--Core Group Minutes

Month	Dec. 1979	Jan. 1980	Feb. 1980	Mar. 1980	Apr. 1980	May 1980	Overall
No. of meetings	1	2	1	1	1	1	7
No. of pages	1	4	1.5	1.5	1.5	1.5	11
Approx. no. of lines	25	120	50	40	110	50	325
% C	4	11	10	28	8	--	10
% O •	4	19	54	10	15	6	18
% Q	28	8	4	3	--	--	7
% R	--	7	--	--	--	--	1
% P	--	--	--	--	--	--	0
%	--	13	--	--	--	--	2
OTHER	64	39	32	59	77	94	61

Academic Learning--Core Group Minutes

Month	Dec. 1979	Jan. 1980	Feb. 1980	Mar. 1980	Apr. 1980	May 1980	June 1980	Total/Average
No. of meetings	1	2	2	1	2	2	1	11
No. of pages	4	7	11	7	11	13	5	58
Approx. no. of lines	110	200	300	200	300	400	150	1660
% C	6	6	3	8	8	45[a]	3	13
% O	--	4	1	5	3	2	8	3
% Q	3	9	7	--	5	--	2	4
% R	--	--	--	--	--	1	9	1
% P	--	5	48[b]	16[b]	--	3	3	11
% I	8	--	1	24	8	1	--	5
% OTHER	83	76	40	47	76	48	75	63

[a]One meeting in May was almost entirely occupied with a discussion of proposals for courses.

[b]Philosophical writings about knowledge and education were extensively discussed during February and March.

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Heterogeneous Classrooms - Contents of Minutes

Category \ Month	Jan. 1980	Feb. 1980	Mar. 1980	Apr. 1980	May 1980	Total/Average
No. of meetings	1	4	1	3	2	11
No. of pages	2	11	2¼	7	4	25
Approx. no. of lines	74	340	75	220	92	800
% C (Content)	4	2	-	16	10	7
% O (Organization)	-	1	5	5	13	5
% Q (Questions, Needs)	-	9	13	1	-	5
% R (Research)	-	-	-	1	-	0.3
% P (Philosophy)	-	-	-	-	-	0
% I (Information)	-	-	-	24[a]	19[b]	10
% Other	96	88	82	53	58	73

[a]One meeting (HC 040480) was devoted almost entirely to a discussion with Dean Lanier of college-wide development plans and NCATE standards.

[b]Information on the present College of Education course structure (HC 050280) and teacher education at the University of Maryland (HC 052380) was presented and discussed.

Learning Community - Contents of Minutes

Category \ Month	Feb. 1980	Mar. 1980	Apr. 1980	May 1980	Total/Average
No. of meetings	1	2	2	1	6
No. of pages	2½	6	2½	1½	12½
Approx. no. of lines	82	200	51	66	400
% C (Content)	-	2	-	23	5
% O (Organization)	-	-	-	-	0
% Q (Questions, Needs)	2	-	-	-	0.3
% R (Research)	-	-	-	-	0
% P (Philosophy)	7	2	-	3	2
% I (Information)	-	14	-	-	5
% Other	91	82	100	74	88

Multiple Perspectives - Contents of Minutes

Month Category	Jan. 1980	Feb. 1980	Mar. 1980	Apr. 1980	May 1980	Total/Average
No. of meetings	4	3	1	3	1	12
No. of pages	11	12	4	9	1	37
Approx. no. of lines	350	450	170	300	25	1295
% C	5	7	-	37[a]	-	13
% O	10	11	2	5	-	8
% Q	2	-	2	-	-	1
% R	-	2	-	0.2	-	0.5
% P	-	-	2	-	-	0.2
% I	23[b]	46[b]	56[b]	-	-	24
% Other	60	34	40	58	100	54

[a]Suggestions for course content were solicited and discussed during the April Meetings.

[b]The first 8 meetings included an extensive review and discussion of the ongoing program.